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November 10, 1993

William F. Caton
Acting Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

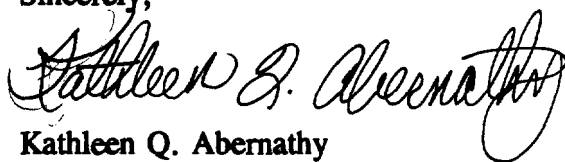
Dear Mr. Caton:

Re: *PP Docket No. 93-253*

On behalf of PacTel Corporation, please find enclosed an original and six copies of its "*Comments*" in the above proceeding.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions or require additional information concerning this matter.

Sincerely,


Kathleen Q. Abernathy

Enclosures

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of:
Implementation of Section 309(j)
of the Communications Act
Competitive Bidding

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PP Docket No. 93-253

COMMENTS OF PACTEL CORPORATION

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November 10, 1993

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Summary

PacTel recommends that the Commission adopt an auction scheme for wideband PCS that provides for several rounds of sealed bids in which all geographic areas for a given spectrum block are auctioned simultaneously. This approach best meets the Commission's goals of rapid deployment of services, licenses awarded to the parties who value them the most, promotion of efficient use of the spectrum, simplicity in administration and facilitation of the efficient aggregation of licenses.

Repeated rounds of sealed bids for the broadband PCS auctions maximizes the release of information to bidders, thus ensuring more accurate license valuation. In addition, it promotes more efficient aggregation of geographic areas and ensures that bidders can consult with management and consortium partners throughout the bidding process. It is superior to the oral auction proposal outlined by the Commission because it permits concealment of identities of bidders, thereby encouraging aggressive bidding, while also allowing auctions to be completed more rapidly.

PacTel also urges the Commission to reject the proposed combinatorial bidding scheme. The proposal only makes sense if a national license is likely to be the only important geographic aggregation of licenses in the auction. At this time, however, no one knows the most efficient and effective aggregation of licenses. Therefore, it best serves the public interest for the Commission to adopt PacTel's sealed bid proposal because it allows the marketplace to determine the most efficient combination of licenses, be that nationwide or regional.

With regard to application processing requirements, PacTel recommends that the Commission not require long-form applications from any bidders prior to the identification of

a winning bidder. Such information is unnecessary and unduly burdensome. The Commission is better served by simply requiring each applicant to submit such information and assurances as are necessary to demonstrate that the applications are acceptable for filing.

PacTel does not support adoption of competitive bidding procedures for intermediate links used by common carrier licensees. First, the microwave spectrum used to provide these links is not a "for compensation" service. Second, today the point-to-point microwave radio licenses used as intermediate links are frequency coordinated before any application is filed. Adoption of bidding procedures for these licenses will undermine the very successful frequency coordination process already in place.

Lastly, PacTel notes that application of bidding procedures to certain of the cellular "unserved areas" and to automatic vehicle monitoring (AVM) systems would be inappropriate. With regard to unserved areas, the Commission can not lawfully implement auctions for the pending 1988 cellular license modification applications filed by PacTel's affiliate, Los Angeles SMSA Limited Partnership ("LASLP"). LASLP's applications involve modification of an existing cellular license and therefore do not qualify as new construction permits and licenses. Further, the existing litigation surrounding LASLP's license modification applications, and the fact that the applications have been pending for more than five years, militates against the use of auctions. With regard to AVM services, the service is assigned to a band that is primarily allocated to ISM and government. Therefore, AVM users always operate on a secondary basis in spectrum where the principal use is not for the provision of service to subscribers for compensation.

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of:)
Implementation of Section 309(j)) PP Docket No. 93-253
of the Communications Act)
Competitive Bidding)

Comments of PacTel Corporation

Introduction

PacTel Corporation, a subsidiary of Pacific Telesis Group, is filing these comments in response to the Commission's Notice of Proposed Rulemaking in the above captioned proceeding. PacTel Corporation is the holding company for PacTel wireless subsidiaries providing cellular, paging, and vehicle location services in U.S. and overseas markets¹.

PacTel's comments focus primarily on the Commission's proposed auction design for broadband PCS, consisting of oral auctions for individual licenses and a separate sealed-bid auction for a combination of geographical areas. PacTel recommends an alternative auction design which we believe will better serve public interest goals. The preferred approach is to use several rounds of sealed bids in which all geographic areas for a given spectrum block are

¹Pacific Telesis Group Board of Directors approved a plan in December, 1992 to spinoff PacTel wireless operations as an entirely independent business from its local telephone companies, Pacific Bell and Nevada Bell. Pacific Telesis Group expects to complete the spinoff in the first half of 1994.

auctioned simultaneously. Such an approach maximizes the information released to bidders, which assists bidders in more accurately estimating license values, and tends to ensure that bidders who most highly value licenses win.

PacTel's recommended approach of simultaneous rounds of sealed bids permits more efficient aggregation of geographic areas. Bidders are able to make interdependent bids, and to bid aggressively on the aggregation of their choice, allowing the market to decide which aggregations should arise. Oral auctions, necessarily sequential because a bidder cannot be in two places at once, raise the problem of correctly ordering the sales. Oral auctions will bias the outcome towards market aggregations centered around the properties auctioned first.

The use of simultaneous rounds of sealed bids overcomes two other defects in the use of oral auctions. First, oral auctions reveal the identity of the bidders which leads to less vigorous competition and lower prices than would occur with several rounds of anonymous sealed bids. Second, oral auctions prevent parties from using information about license values released during bidding, because there is no opportunity to consult with management or consortium partners and to adjust bidding strategy accordingly.

Finally, PacTel opposes the Commission's proposed combinatorial bidding scheme because it can result in lower prices on individual licenses and less efficient combinations of licenses than PacTel's preferred approach.

I. Application of Competitive Bidding Procedures to Wideband Personal Communications Services.

The Commission's task in developing an auction process for PCS licensing is a daunting one, with thousands of licenses to be awarded under short deadlines, billions of dollars in potential revenues, and numerous legislative requirements. The objectives outlined in the Notice are diverse: rapid deployment, licenses awarded to the parties which value them most, promotion of efficient use of the spectrum, simplicity in administration, and facilitation of the efficient aggregation of licenses. Given the complexity and lack of precedent for an auction of the magnitude of PCS, PacTel has enlisted the participation of an experienced auction theorist to assist in the evaluation of the various auction designs available to the Commission.

As an Exhibit to this filing, PacTel has attached a report prepared by a noted auction expert, Dr. Preston McAfee of the University of Texas at Austin². Based upon his years of experience in the study of auction design and use, Dr. McAfee has developed a recommendation for the auctioning of PCS licenses which he believes best serves the Commission's objectives for licensing this industry. PacTel concurs in his recommendations.

²PacTel's auction design recommendations apply only to auctions for broadband PCS licenses which raise different issues than those raised for narrowband PCS licenses. Issues related to competitive bidding for narrowband PCS will be addressed in a separate filing by PacTel Paging in conjunction with other parties with narrowband interests.

Consistent with Dr. McAfee's recommendations, PacTel proposes the use of several rounds of sealed bids in which all geographic areas for a given spectrum block are auctioned simultaneously. The mechanics of this approach are described in detail in his attached paper, as are the advantages of this approach over oral sequential or single round sealed bids. Specifically, these advantages include simplicity in operation, greater release of information to the bidders, ability of bidders to consult with management and partners, anonymity of bidders (which increases bid competition and discourages collusion), more rapid completion of licensing, more efficient aggregation of licenses, increased availability of data to the Commission for evaluation, and greater government revenue. Dr. McAfee also counsels against combinatorial bids, such as the separate auction for a national license proposed by the Commission, because this approach has a dampening effect on individual license bids and leads to less efficient aggregation of geographical areas.

A further issue addressed in Dr. McAfee's paper is the treatment of designated entities.³ Based upon studies of other government auctions in which specific entities were favored for public policy reasons, Dr. McAfee concludes that price preferences rather than set asides better achieve government goals for inclusion of designated groups.

³See Section III.C. of the Notice.

With regard to the alternative payment plans set forth in Paragraphs 68-71 of the Notice, Dr. McAfee specifically recommends against royalty payments for PCS auctions. Such payments create disincentives to fully develop the license, lead to inefficient pricing of services, and are extremely complex to administer and police.

II. Application Processing Requirements

In Paragraph 97, the Commission proposes that applicants be required to submit both a short-form application and a long-form application prior to an auction for any given license. Given the significant uncertainties about the value of broadband PCS licenses, the massive number of licenses being awarded, and the embryonic state of PCS technology, the Commission should not require long-form applications from any bidders other than after a bidder has won a particular license. Requiring long-form applications prior to PCS auctions would be unreasonably burdensome on the industry, provide unnecessary information to the Commission, and is not required by the statute.

Section 309(j)(5) requires bidders to file such information and assurances as the Commission may require to demonstrate that their applications are acceptable for filing. As the House Report clarifies, the Commission has the discretion to make the determination of bidder

qualifications and compliance with application rules after the competitive bidding procedure⁴.

PacTel strongly urges the Commission to keep to a minimum the up front information required and not require bidders to submit long form applications, such as FCC Form 401, until and unless a bidder has been identified as the winning applicant. Prior to the auction, the Commission need only know the identity of the applicant, including all parties in interest, their legal qualifications as to citizenship and character, and their financial ability to participate in the auction process. Such a short-form filing would adequately fulfill the statutory requirement that mutually exclusive applications be identified as a condition precedent to conducting a license auction⁵.

A critical reason to avoid requiring license-specific technical data is related to PacTel's recommended auction design for broadband. Bidders will not always know ahead of time in which auctions he or she will actively participate, particularly given the uncertainties surrounding the value of PCS licenses. For example, a small business interested in providing service somewhere within a MTA may simply want to bid on the BTA which appears to be available at the lowest price. Alternatively, a large company may want to provide service in as many MTAs as it can afford to bid on, depending upon the levels at which the bidding closes.

⁴H.R. Rep. No. 103-111 at 258.

⁵Section 309(j) (1).

Thus, in the case of simultaneous auctions, bidders would be required to file license-specific applications for hundreds of markets which they are unlikely to pursue, but for which they may want to keep their options open as the bidding progresses. Such a result could deter serious applicants from participation and lower the prices obtained for PCS licenses. As long as the Commission can evaluate the basic legal and financial qualifications of the bidder, any needed technical showings can be made in a supplemental filing following the acceptance of a winning bid. The short-form application could be put on public notice after the auction, and if the winning bidder is deemed ineligible to hold the license, the second highest bidder should be declared the winner.

Even after a winning PCS bidder has been identified, the Commission should require only the very minimum of technical information needed to meet the statutory requirements of Section 308(b). PCS is unique among licensed services for several reasons. Detailed engineering plans in advance of actual transmitter application and authorization are required for other services so that the Commission can be assured that a licensee intends to utilize fully the spectrum awarded. By investing millions of dollars in the right to hold a PCS license, PCS licensees will have more of an economic incentive to get their systems built and operational than licensees who can obtain spectrum for free. Furthermore, the extremely harsh forfeiture-of-license

penalty imposed upon PCS licensees who fail to meet the build-out requirements further undercuts the possibility that a licensee will fail to develop a system.

Finally, advance engineering plans containing transmitter sites, power levels, and other technical data are likely to change dramatically over the life of the license as PCS technology, now in its earliest stages, matures. All PCS licensees will be required to experiment as they go, working through the standards process, dependent upon equipment which has yet to be manufactured. Negotiations over relocation of existing microwave users within a spectrum band will also effect network design and development. Rather than burden parties with paperwork requirements unlikely to reflect actual system configurations, the Commission should make a determination that the public interest is best served by a requirement that PCS licensees need only file transmitter-specific engineering forms.

III. Application of Competitive Bidding to Intermediate Links in Proposed or Existing Common Carrier Services

In Paragraphs 29 and 157 in the Notice, the Commission proposes that point-to-point microwave radio licenses used as an intermediate link in the provision of continuous, end-to-end service should be subject to competitive bidding. PacTel strongly opposes this conclusion as contrary to the statutory criteria and the public interest.

First, under today's rules, microwave licenses are frequency coordinated before the application is filed. Such a process has served the industry well; links are efficiently allocated to parties on a first-come, first-served basis, with minimum use of Commission resources. For parties wishing to protest approval of specific applications based upon disagreements with the decision of frequency coordinators, hearings may be conducted by the Commission.⁶

Adoption of competitive bidding procedures for these services would likely increase the number of mutually exclusive applications filed, contrary to the provisions of Section 309(j)(6)(E). This Section states:

(6) Nothing in the subsection, or in the use of competitive bidding shall . . . (E) be construed to relieve the Commission of the obligation in the public interest to continue to use engineering solutions, negotiations, threshold qualifications, service regulations, and other means in order to avoid mutual exclusivity in application and licensing proceedings.

PacTel believes that adoption of competitive bidding for point-to-point microwave frequencies will undermine the frequency coordination process, and increase the risk of "greenmailers" interested in pay-offs from licensees anxious to avoid the costs and delays of mutually exclusive licensing situations.

Second, the licensee of microwave spectrum used to interconnect cells in a cellular or future PCS system is not offering microwave service for compensation as required by

⁶See 47 CFR Section 21.32(e).

Section 309(j)(2)(A). The internal operations of a network such as a backhaul link to aggregate and route traffic efficiently may include a variety of options including constructing a private microwave system, leasing microwave links from a common carrier provider, installing fiber lines, or leasing local exchange facilities. Mobile subscribers are not transmitting directly or receiving calls on any of these facilities.

Finally, common carrier uses for microwave links are comparable to other private network applications such as microwave systems employed by electric utilities, railroads, and oil companies. Equity requires that one group of microwave users not be singled for payment when other parties, similarly using microwave for internal purposes, would be exempt from competitive bidding because they are in a different industry.

IV. Application of Competitive Bidding to Cellular License Modification Applications

In its Notice, the Commission proposed to employ the competitive bidding process for cellular "unserved area" license applications filed prior to July 26, 1993.⁷ In deciding whether to adopt this proposal, it is important for the Commission to recognize that it does not have the lawful authority to use auctions regarding the pending 1988 cellular license modification applications filed by PacTel's

⁷Notice at Paragraph 160.

affiliate, Los Angeles SMSA Limited Partnership ("LASLP") regarding certain "unserved areas" of the Greater Los Angeles market.

It would be unlawful for the Commission to attempt to use auctions with regard to LASLP's 1988 license modification applications for two reasons. First, as the Commission itself has recognized, its authority to use auctions extends only to the issuance of new construction permits and licenses and not to license modification applications.⁸ Because LASLP's 1988 applications seek authority to modify its existing cellular license for Los Angeles, the Commission cannot lawfully use an auction for these applications.

Second, the use of auctions would violate the spirit, if not the letter, of the U.S. Court of Appeals for the District of Columbia Circuit's decision to reinstate nunc pro tunc LASLP's 1988 license modification applications.⁹ Similarly, a decision to use auctions with the applications that were reinstated nunc pro tunc by the U.S. Court of Appeals by the McElroy decision would be inconsistent with the Commission's statutory mandate that it use auctions for only those license applications filed prior to July 26, 1993 where it would be in the public interest. Since there are only three applicants with timely filed "unserved area" applications for the Greater Los Angeles market and they

⁸Notice at Paragraph 2; See also revised Section 309(j) of the Communications Act.

⁹See McElroy Electronics Corp. v. FCC, 990 F 2d 1351 (D.C. Cir. 1993).

have been pending for more than five years, use of auctions with those applications would certainly not be in the public interest.

V. Application of Competitive Bidding to Automatic Vehicle Location Systems

In footnote 153 of the Notice, the Commission proposes to delay action on the applicability of competitive bidding to Automatic Vehicle Monitoring services, pending resolution of certain fundamental questions about the nature of this service now being considered in a separate proceeding.¹⁰ The Notice tentatively concludes, however, that because AVM frequencies are shared with the government, which is primary in this band, the principal use of these frequencies might not be for the provision of service to subscribers for compensation, as contemplated by Section 309(j).

Competitive bidding would not be appropriate for the 902-928 MHz band. The principal reason is that AVM would not have exclusive use of the band, even assuming AVM is awarded some type of protection from interference for its signals (co-channel separation). The primary users in the band are ISM and government. AVM, amateur radio and Part 15 (unlicensed) devices operate in the band only on a secondary basis. In a co-channel environment, this hierarchy of use would not change, and AVM would continue to be secondary to ISM and Government.


¹⁰Notice of Proposed Rulemaking, PR Docket No. 93-35, 8 FCC Rcd 2227 (1993).

Conclusion

PacTel urges the Commission to adopt PacTel's auction design proposal for PCS as one that better meets the Commission's goals simplicity, efficiency, and rapid deployment than either oral auctions or combinatorial bidding. License processing requirements should be minimized to reflect the unique characteristics of PCS.

Additionally, competitive bidding authority should not apply to intermediate links, cellular license modifications, or Automatic Vehicle Monitoring services, for the reasons stated above.

Respectfully Submitted,


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November 10, 1993

Auction Design for Personal Communications Services

by

R. Preston McAfee

Rex G. Baker, Jr., Professor of Political Economy

University of Texas at Austin

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Executive Summary

In its Notice of Proposed Rule Making, the Federal Communications Commission tentatively recommends that spectrum license rights for Personal Communication Services be sold in a two-part auction with both oral auctions for specific geographic areas and a separate sealed-bid auction for a national license. This proposed auction design has several important flaws that can be corrected to ensure that the license rights are sold in an efficient manner that also raises substantial revenues.

The best practical manner in which to auction the PCS licenses is to use several rounds of sealed bids in which all geographic areas for a given spectrum block are auctioned simultaneously. Using several rounds of sealed bids eliminates three serious defects of the oral auctions proposed by the Commission.

First, oral auctions are necessarily sequential, which makes efficient aggregation of different geographic areas difficult. In particular, oral auctions raise the problem of correctly ordering the sales. This requires the Commission to forecast the efficient aggregations, which seems impossible to know in advance. It is preferable to let the market choose the aggregations that make good business sense. Such market choice requires simultaneous bidding.

Second, oral auctions permit bidders to observe the identities of their competitors, raising the likelihood of collusion by rivals. While explicit collusion is unlikely given the nature of the bidding firms, exposing the identities of bidders will likely lead to less intense competition and lower prices than would occur with several rounds of anonymous, sealed-bids.

Third, oral auctions reduce the ability of bidders to consult with management or consortium partners and eliminate the opportunity for careful deliberation in bidding. Thus the speed at which an oral auction operates eliminates the major advantage of oral

auctions over one-time, sealed-bids: the incorporation of information regarding other firms' bids into the bidding process.

Furthermore, the use of a separate national license to facilitate aggregation is both unnecessary and inefficient. With simultaneous ascending bid auctions, a national geographic area can be readily assembled by a bidder. Moreover, auctioning a national license separately will likely to lead to inefficient aggregation. The existence of a separate auction for a national license also reduces competition for the individual licenses, leading to lower prices.

The extra release of information, along with careful deliberation by the bidders in forming their bids, allowed by several rounds of sealed bids will lead to (1) more efficient aggregations of licenses; (2) higher average prices for the licenses; and (3) more informed decisions by the bidders. In sum, the recommended auction design, with several rounds of sealed bids for the simultaneous sale of different geographic areas, is preferable to the Commission's two-part auction design.

I. Introduction

A. Purpose of Statement

My name is R. Preston McAfee. I am *Rex G. Baker, Jr.*, Professor of Political Economy at the University of Texas at Austin.¹ Based on my expertise in the field of auctions,² PacTel Corporation ("PacTel") retained me to develop a recommended auction design for Personal Communication Services ("PCS") spectrum auctions as described in the Federal Communication Commission's Notice of Proposed Rule Making ("Notice") dated October 12, 1993. This report contains my recommendations for consideration in this rule making.

B. Goals of Auction Design

In preparing this report, I consider three primary goals: simplicity, efficiency, and revenue. First, the auctions should be simple to operate and easily understood by the bidders, to minimize the transactions costs and confusion associated with their implementation (see Notice at ¶ 18). For this reason, I restrict attention to standard auction forms (sealed-bid and oral ascending auctions) that are commonly used to sell a large variety of items.³

¹ Formerly, I was Professor of Economics at the University of Western Ontario. I hold M.S. and Ph.D. degrees from Purdue University, and a B.A. degree from the University of Florida. I am a Co-Editor of the *American Economic Review* and an associate editor of the *Journal of Economic Theory*.

² I have spent much of my professional career studying the design and use of auctions. I have published twenty articles and a book concerning various aspects of auctions. Many of these articles have appeared in the leading professional journals, including the *American Economic Review*, *Econometrica*, and the *Journal of Economic Theory*. My book, *Incentives in Government Procurement* (with John McMillan, published by the University of Toronto Press, 1988), is an analysis of the design of procurement auctions.

The restriction to simple auctions narrows the focus of consideration to variants of two basic and popular auction forms. These include the *first-price, sealed-bid* auction, in which bidders independently submit bids with the highest bidder winning and paying the highest bid, and *ascending bid* auctions, in which prices are successively raised to the point where only one bidder is willing to pay the prevailing price, i.e., where the second-highest bidder drops out. Such ascending bid auctions are usually carried out in an *oral* fashion, for example by the famous auction houses *Christie's* and *Southeby's*. Oral ascending bid auctions are commonly known as *English* auctions.

Second, within the range of simple auctions, I consider the efficiency of the spectrum allocation that should result from the auction. In particular, the auction should be designed to allocate the license to the highest value bidder (see Notice at ¶ 34 and footnote 26) and to produce efficient geographic aggregations of licenses. Such aggregations would promote single ownership of neighboring geographic areas whenever this enhances the value of the licenses and permits consumers to be offered a superior, more valuable product (see Notice at ¶ 35). In particular, it is important to attempt to design the auction so that the efficient aggregations arise immediately, and the use of an after-market in licenses is minimized (see Notice at footnote 21).

Third, I consider that the revenue raised by the government should capture most of the value of the licenses so that applicants not obtain unjust enrichment. I give efficiency priority over revenue in making my assessments, following the Commission's stated goals (see Notice at ¶ 14).

The remainder of the report is organized as follows. Section II outlines the recommended auction design and discusses its advantages compared to the Commission's proposed auction design. Section III discusses the details of the recommended auction

³ I do not recommend the Dutch Auction for the reasons given in the Notice at ¶ 42. In addition, the advantages of the second price sealed-bid or Vickrey auction are primarily theoretical in nature.